

## Pinus ponderosa / Schizachyrium scoparium Wooded Herbaceous Vegetation

COMMON NAME	Ponderosa Pine / Little Bluestem Wooded Herbaceous Vegetation
SYNONYM	Ponderosa Pine / Little Bluestem Savanna
PHYSIOGNOMIC CLASS	Herbaceous vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland with a sparse tree layer (V.A.6)
PHYSIOGNOMIC SUBGROUP	Natural/semi-natural (V.A.6.N)
FORMATION	Medium-tall temperate or subpolar grassland with a sparse needle-leaved evergreen or mixed tree layer (V.A.6.N.f.)
ALLIANCE	<i>Pinus ponderosa</i> Wooded Medium-tall Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM Upland

### RANGE

#### *Globally*

Currently reported from western Nebraska, South Dakota, and eastern Wyoming; it is unknown if it also occurs in Montana and Colorado.

#### *Jewel Cave National Monument*

This community occurs throughout the Jewel Cave area. It is best developed on the north sides of drainages, such as Lithograph Canyon.

### ENVIRONMENTAL DESCRIPTION

#### *Globally*

This community is found on loamy, sandy, or rocky soil. It is usually found on gentle to moderate slopes. Parent material is usually either sandstone or limestone (McAdams et. al 1998).

#### *Jewel Cave National Monument*

The larger stands of this community were observed on slopes ranging from 4 to 30 degrees, with most between 10 and 20 degrees. Aspect usually is southerly.

### MOST ABUNDANT SPECIES

#### *Globally*

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i> , <i>Juniperus scopulorum</i>
Short shrub	<i>Rhus trilobata</i> , <i>Symphoricarpos occidentalis</i>
Herbaceous	<i>Bouteloua gracilis</i> , <i>Carex filifolia</i> , <i>Schizachyrium scoparium</i>

#### *Jewel Cave National Monument*

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>
Subcanopy	<i>Juniperus scopulorum</i>
Short shrub	<i>Rhus trilobata</i>
Herbaceous	<i>Schizachyrium scoparium</i>

**USGS-NPS Vegetation Mapping Program**  
**Jewel Cave National Monument**

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**DIAGNOSTIC SPECIES**

*Globally*

*Pinus ponderosa*, *Schizachyrium scoparium*, *Yucca glauca*, *Opuntia* spp.

*Jewel Cave National Monument*

*Pinus ponderosa*, *Schizachyrium scoparium*

**VEGETATION DESCRIPTION**

*Globally*

This community has scattered mature trees with a fairly continuous graminoid understory. *Pinus ponderosa* is the most abundant tree species, sometimes with *Juniperus scopulorum* present as small trees or tall shrubs. The most abundant graminoids in the understory are *Schizachyrium scoparium*, *Stipa comata*, *Carex filifolia*, *Bouteloua gracilis*, and *B. curtipendula*. *Calamovilfa longifolia* and *Koeleria macrantha* may be found on sandy soils in the eastern part of this community's range. Forbs that may be present include *Gaura coccinea*, *Psoraleidium lanceolatum*, and *Asclepias pumila*. In addition to the herbaceous species, shrubs such as *Symphoricarpos occidentalis*, *Rhus trilobata*, and *Cercocarpus montanus* are sometimes found in this community.

*Jewel Cave National Monument*

This community is dominated by *Pinus ponderosa* in the canopy, and by dry prairie graminoids in the understory with *Schizachyrium scoparium* consistently most abundant. *Juniperus scopulorum* (subcanopy) and *Rhus trilobata* (short shrub) are consistent components, though not abundant. Canopy cover typically is sparse, with few widely-spaced trees (this is easily seen in aerial photographs). The subcanopy and shrub strata typically are sparse or occasionally absent. Herbaceous cover typically ranges from 25 to 50%.

**OTHER NOTEWORTHY SPECIES** Information not available.

**CONSERVATION RANK** G2G3

**RANK JUSTIFICATION**

There are probably fewer than 100 occurrences in a restricted range in the northwestern Great Plains. Three occurrences are currently documented, one from South Dakota, and two from Nebraska. Over 8000 acres are currently documented, and at least that much is expected in other occurrences. Two of the currently documented occurrences are in fair condition; it seems likely that occurrences have been degraded by cattle grazing.

**DATABASE CODE** CEG002019

**COMMENTS**

*Globally*

Periodic fires are probably important in maintaining the open grassland understory of this type.

*Jewel Cave National Monument*

In some areas, this community probably is an artifact of fire history, representing post-burn pine encroachment into little bluestem grassland.

This community also occurs in mosaics with the *Pinus ponderosa* / *Carex inops* ssp. *heliophila* Woodland.

**REFERENCES**

Hayward, H. H. 1928. Studies of plants in the Black Hills of South Dakota. Botanical Gazette 85(4):353-412.

McAdams, A. G., D. A. Stutzman, and D. Faber-Langendoen. 1998. Black Hills Community Inventory, unpublished data. The Nature Conservancy, Midwest Regional Office, Minneapolis, MN.

Steinauer, G. 1989. Characterization of the natural communities of Nebraska. Pp. 103-141, in, M. Clausen, M. Fritz, and G. Steinauer. The Nebraska Natural Heritage Program, Two Year Progress Report, Appendix D. Lincoln, NE.